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PCT/EP2004/052760

1

SEQUENCE LISTING

<110> Biogenma

<120> MEG1 endosperm-specific promoters and genes

<130> BGM 27 - WO

<150> EP 03292739.4

<151> 2003-11-03

<160> 64

<170> PatentIn version 3.2

<210> 1

<211> 370

<212> DNA

<213> Zea mays

<220>

<221> misc_feature

<223> promoter Meg1-1

<400> 1

agccagaatt gtaaccttgg gttttccac acctcaaata gatattggata tagttatata 60

gatagatata gcaattccac caaataatat agaggtatag atatagatat aacaaggggt 120

atatatatag atatagatat atagaagata tagatggata gatagatatg atagaataga 180

atagataact tacaattttg tctaaaagag actaaatcac tgctaagttt ggtcttttgg 240

gaatacttgc cagtgaattg gttttcgcta tagtatatat ataagtatac actcttctag 300

gattatagta tatataagta tacactcttc taggatcggg cgtgaggagt tccttaacat 360

ttcttgcgac 370

<210> 2

<211> 415

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<213> Zea mays

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<223> promoter Meg1-2

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cacctcaaat agatatagat atagggatat agatagatat agcaaatcca ccaataata 120

taggggtata gatatagata taagaagggg tatagatata gatatagata tatagaagat 180

atagatagat agatagatat gatagaatag ataacttaca attttgtcta aaagaacta 240

aatcactgct aagtttggag tagcatatct ttggtgaata cttgctagtg aattgttttc 300

cgctatagta tatatatata agtatacaact cttctaggat tatagtatat atatatatat 360
aagtatacac tcttctagga tcaatcgtga ggagttcatt aaattgtctt gcgac 415

<210> 3
<211> 376
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<213> Zea mays

<220>
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<223> promoter Meg1-3

<400> 3
tcgaggtcga cggtatcgat aagcctcaaa tagatataga tatagggata tagatagata 60
tagcaaatc accaaataat ataggggtat agatatagat ataagaagggt gtatagatat 120
agatatagat atatagaaga tatagataga tagatagata ttagagaata gataacttac 180
aatttgtctt aaaagaaact aaatcactgc taagtgttga gtagcatatc ttgtgtgaat 240
acttgcctgt gaattggttt cggtatagat atatatatat aagtatacac tcttctagga 300
ttatatgata tatatatata taagtataca ctcttctagg atcaatcgtg aggagttcat 360
aaaattgtct tgcgac 376

<210> 4
<211> 121
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<213> Zea mays

<220>
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<223> nucleotides 1 to 121 of promoter Meg1-1

<400> 4
agccagaatt gtaaccttgg gttttccac acctcaaata gatattggata tagttatata 60
gatagatata gcaaatccac caataatat agaggtatag atatagatat aacaaggggt 120
a 121

<210> 5
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<213> Zea mays

<220>
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<223> MEG1-1 cDNA

<400> 5

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 ggaattttgc gagaaaaag agcacaatgc gctcaagggt ttctccatg caaagataac 180
 aagtgtctact gtgtcattgg gggccgaact catgattgct actatacgt ggctcagtgt 240
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 ggcaatgcta ttaataatac ataagggaat tttagttttg gtattagaat tttcttgatt 360
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<210> 6
 <211> 75
 <212> PRT
 <213> Zea mays

<220>
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 <223> MEG1-1

<400> 6

Met Glu Tyr Lys Lys Arg Val Asp Ala Leu Val Phe Phe Ser Leu Leu
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Leu Leu Gly Tyr Phe Ala Ala His Ala His Gly Ala Glu Glu Gly Ile
 20 25 30

Leu Arg Glu Lys Arg Ala Gln Cys Ala Gln Gly Phe Leu Pro Cys Lys
 35 40 45

Asp Asn Lys Cys Tyr Cys Cys Ile Gly Gly Arg Thr His Asp Cys Tyr
 50 55 60

Tyr Thr Met Ala Gln Cys Ser His Ala Cys Phe
 65 70 75

<210> 7
 <211> 383
 <212> DNA
 <213> Zea mays

<220>
 <221> misc_feature
 <223> Meg1-2 cDNA

<400> 7
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gggttttcta ctccagctaa agaaggaatt atgcaaggaa acggagcacg atgcgttgta      180
gggtttctct catgcaaaga taacaagtcg tactgctgca ttggggggcg aactcatgct      240
cgctactcta cgatggctga gtgtagacat gcctgcttct aaacacaaat taagatcgct      300
gttattatat acattgtaat ggtaggtaat gctattaata atatatggga attttagttt      360
tggtaaaaaa aaaaaaaaaa aaa                                             383

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<210> 8
<211> 88
<212> PRT
<213> Zea mays

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<220>
<221> MISC FEATURE
<223> MEG1-2

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<400> 8

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Met Glu Tyr Arg Lys Arg Val Asp Ala Leu Val Phe Phe Ser Leu Leu
 1             5             10             15

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Leu Leu Gly Tyr Phe Ala Ala His Ala His Gly Lys Gly His Val Thr
      20             25             30

```

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Asp Asp Val Gly Val Ser Thr Pro Ala Lys Glu Gly Ile Met Gln Gly
      35             40             45

```

```

Asn Gly Ala Arg Cys Val Val Gly Phe Pro Pro Cys Lys Asp Asn Lys
      50             55             60

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Cys Tyr Cys Cys Ile Gly Gly Arg Thr His Ala Arg Tyr Ser Thr Met
      65             70             75             80

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Ala Glu Cys Arg His Ala Cys Phe
      85

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<210> 9
<211> 786
<212> DNA
<213> Zea mays

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<220>
<221> misc_feature
<223> MEG1-3 cDNA

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<400> 9
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cgctagtgtt tttctcgta ctctcctca gatactttgc tgctcatgca catgggaagg 120
 gtaagtgcta ctgctgcatt gggggcgatg tagggtttcc tccatgcaaa gataacaagt 180
 gctactgctg cattgggggg cgaactcatg ctgcctactc tacgctggct gagtgtagtc 240
 atgctgtgct ctaaacaaaa attaagatca ctgttattat atacattgta atggtaggta 300
 atgtatttaa taatatatgg gaattttagt ttggtatta tacttttttc caattcacga 360
 aataccttct aaaacctggc gtgacagtg gcatagcagg agtggagggc agcgacggct 420
 gcacagcgct gcatgcagtg gcttgcattt gtagctcctc gttggcgatg cgtgtgcgac 480
 caagagctct cggcacagac aggtcatgtc acagatgatg tcggagtgtc tactcoagct 540
 aaagaaggaa ttatgcaagg aaacggagca cgaatgcgatg tagggtttcc tccatgcaaa 600
 gataacaagt gctactgctg cattgggggg cgaactcatg ctgcctactc tacgctggct 660
 gagtgtagtc atgctgtgct ctaaacaaaa attaagatca ctggtattat atacattgta 720
 atgggtaggt aatgtatta ataatatatg ggaatttaag ttgtgtatt aaaaaaaaaa 780
 aaaaaa 786

<210> 10
 <211> 72
 <212> PRT
 <213> Zea mays

<220>
 <221> MISC FEATURE
 <223> MEG1-3, first ORF

<400> 10

Met Glu Tyr Arg Lys Arg Val Asp Ala Leu Val Phe Phe Ser Leu Leu
 1 5 10 15

Leu Leu Arg Tyr Phe Ala Ala His Ala His Gly Lys Gly Lys Cys Tyr
 20 25 30

Cys Cys Ile Gly Gly Asp Val Gly Phe Pro Pro Cys Lys Asp Asn Lys
 35 40 45

Cys Tyr Cys Cys Ile Gly Gly Arg Thr His Ala Arg Tyr Ser Thr Leu
 50 55 60

Ala Glu Cys Ser His Ala Cys Phe
 65 70

<210> 11
 <211> 667

<212> DNA
<213> Zea mays

<220>
<221> misc_feature
<223> MEGL-4 cDNA

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<400> 11
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accaccaagg ccccgccgc caccagcacc gtagccacta ccgcccga gaccaccacc 180
gccttgccg aatccaccac ccatgccatg cccaattcca ccactttgc catggcctcc 240
accatgccca tggccaatgt cgcctccgag tcgccacact ttgccatata caccaccaag 300
gccaccgcct ttcttaaat tgtcttgca catggagtac agaaagaggg tggatgcgct 360
agtgttttc tegtacttc tctcggata ctttgcgtct catgcacatg gaaaggctaa 420
agaaggaatt atgcaaggaa acggagcacg atgcgttggt gggtttctc catgcaaaga 480
taacaagtgc tactgttgca ttggggggcg aactcatgct cgctactcta cgtgggtga 540
gtgtagtcat gcctgcttct aaacaaaaat taagatcgat gttattatat aaattgtaat 600
ggtaggtaat gctattaata atatatggga attttagttt tggtaattaa aaaaaaaaaa 660
aaaaaaa 667

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<210> 12
<211> 76
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<213> Zea mays

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<221> MISC_FEATURE
<223> MEGL-4

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1 5 10 15
Leu Leu Gly Tyr Phe Ala Ala His Ala His Gly Lys Ala Lys Glu Gly
20 25 30
Ile Met Gln Gly Asn Gly Ala Arg Cys Val Val Gly Phe Pro Pro Cys
35 40 45
Lys Asp Asn Lys Cys Tyr Cys Cys Ile Gly Gly Arg Thr His Ala Arg
50 55 60

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Tyr Ser Thr Met Ala Glu Cys Ser His Ala Cys Phe
 65 70 75

<210> 13
 <211> 621
 <212> DNA
 <213> Zea mays

<220>
 <221> misc_feature
 <223> MEG1-5 cDNA

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 cactctatat attgaggggt tacctgcaaa ctgcacacga cgggagggtt cacatatatt 180
 tcgccattt gttggtttct gtgaagttcg tcttgcaac aaggagtcca gacatcctgg 240
 tggagatcca catgtgtgt gtttcgtcga tttgacaac cctgctcagg ctacaattgc 300
 tctggaagca ttacaaggct atgtcacgga tgatgtcaat gttctgtctc cagctgaaga 360
 aggaattttg cgagaaaaaa gagcacaatg cgctcaaggg tttcttccat gcaaaagataa 420
 caagtgtcac tgttgcatgg ggggcccgaac tcatgattgc tactatacga tggctcagtg 480
 tagtcatgca tgcttctaata caaaaattaa gatcactgtt tttatataca atgtaatggt 540
 aggcaatgct attaataata cataaggga ttttattttg gtattagaat ttttctgatt 600
 gacgaaaaaa aaaaaaaaaa a 621

<210> 14
 <211> 142
 <212> PRT
 <213> Zea mays

<220>
 <221> MISC FEATURE
 <223> MEG1-5

<400> 14

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 1 5 10 15

Ser Thr Leu Tyr Ile Glu Gly Leu Pro Ala Asn Cys Thr Arg Arg Glu
 20 25 30

Val Ser His Ile Phe Arg Pro Phe Val Gly Phe Arg Glu Val Arg Leu
 35 40 45

Val Asn Lys Glu Ser Arg His Pro Gly Gly Asp Pro His Val Leu Cys
50 55 60

Phe Val Asp Phe Asp Asn Pro Ala Gln Ala Thr Ile Ala Leu Glu Ala
65 70 75 80

Leu Gln Gly His Val Thr Asp Asp Val Asn Val Ser Ala Pro Ala Glu
85 90 95

Glu Gly Ile Leu Arg Glu Lys Arg Ala Gln Cys Ala Gln Gly Phe Leu
100 105 110

Pro Cys Lys Asp Asn Lys Cys Tyr Cys Cys Ile Gly Gly Arg Thr His
115 120 125

Asp Cys Tyr Tyr Thr Met Ala Gln Cys Ser His Ala Cys Phe
130 135 140

<210> 15
<211> 974
<212> DNA
<213> Zea mays

<220>
<221> misc_feature
<223> MEG1-6 cDNA

<400> 15
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catggccctc gagtccagca gcaaggccgc caccgcgcgc ggacgcgagc accagcagca 120
gcagcggaag aagaaggcca cccgcgcgcg cggccgcttc ctccaagcgg gagaggggaga 180
gggagcgagg gcgggagcgg aacaaggagg cggacgaggt caccgtggag ctccgcgcgg 240
tggggttcgg caaggagggt gtgctgaagc agcggcgscg gatgcggcgg aggcgcgcgc 300
tgggcgagga ggagcgcgcg gccatcctgc tcatggcgct ctctccggc gtcgtgtacg 360
cctgacttgg ctagcaaccg cgcgggcccc cgagacgccg cgcccaaagg cggcgaaagg 420
agaggaggcg ccgattcgct ggacgtgcgg catgatctga gcccacagaca gatccgtccc 480
tctgatctca tgctaagttt tcccgcgtaa gtagtagctc gtcggttcga acaaggcgag 540
ttaataatcc gtgtccgcgc taggctagca gctctgttcc tctctcccc tcccgttgct 600
tgctgtgttc ttgccaccgc ctctcttagt tgtaatcctg ccgctagtag tgtgctagta 660
gtagctgtcc tgctgaacc ttctcttgca atgtaaggag agattatatg gttaaaaaca 720


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cagatgatgt cagtgtttct actccagcta aagaaggaa tatgcaagga aacggagcat      780
gggtgcgttgt agggtttcct ccatgcaaag ataacaagtg ctactgctgc attggggggc      840
gaactcatgc togtactct acgatggctg agtgtagaca tgcctgcttc taaacaaaaa      900
ttaagatcgc tgttattata tacattgtaa tggtaggtaa tgctattaat aatatatggg      960
aattttagtt ttgg                                                    974

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<210> 16
 <211> 61
 <212> PRT
 <213> Zea mays

<220>
 <221> MISC_FEATURE
 <223> MEG1-6

<400> 16

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Met Val Lys Asn Thr Asp Asp Val Ser Val Ser Thr Pro Ala Lys Glu
1           5           10           15

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```

Gly Ile Met Gln Gly Asn Gly Ala Trp Cys Val Val Gly Phe Pro Pro
20           25           30

```

```

Cys Lys Asp Asn Lys Cys Tyr Cys Cys Ile Gly Gly Arg Thr His Ala
35           40           45

```

```

Arg Tyr Ser Thr Met Ala Glu Cys Arg His Ala Cys Phe
50           55           60

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<210> 17
 <211> 23
 <212> DNA
 <213> Artificial

<220>
 <223> oligonucleotide

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23

<210> 18
 <211> 25
 <212> DNA
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<220>
 <223> oligonucleotide

<400> 18
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25

10

<210> 19
<211> 16
<212> PRT
<213> Artificial

<220>
<223> Synthetic peptide

<400> 19

Asn Ala Pro Ala Glu Glu Gly Ile Leu Arg Glu Lys Arg Ala Gln Cys
1 5 10 15

<210> 20
<211> 27
<212> PRT
<213> Artificial

<220>
<223> Cystein-rich peptide

<220>
<221> MISC_FEATURE
<222> (1)..(27)
<223> Xaa = amino acid

<400> 20

Cys Xaa Xaa Xaa Xaa Cys Tyr Cys Cys Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15

Xaa Tyr Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Cys
20 25

<210> 21
<211> 28
<212> DNA
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<220>
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<400> 21
ggatccatga atcccaactt caacagtg

28

<210> 22
<211> 31
<212> DNA
<213> Artificial

<220>
<223> oligonucleotide

<400> 22

gaattcttat cggttatata tctggctctc c

31

<210> 23
<211> 23
<212> DNA
<213> Artificial

<220>
<223> oligonucleotide

<400> 23
tgctgctcat gcgcatgggg ctg

23

<210> 24
<211> 28
<212> DNA
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<220>
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<400> 24
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28

<210> 25
<211> 23
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<220>
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<400> 25
atgcacatgg gaagggtcat gtc

23

<210> 26
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<212> DNA
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<220>
<223> oligonucleotide

<400> 26
ttagaagcak gcatgwctac actsagcc

28

<210> 27
<211> 20
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<220>
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<400> 27
gcatagcagg agtggagggc

20

<210> 28
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<220>
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<400> 28
gaagcaggca tgactacact c

21

<210> 29
<211> 20
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<220>
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<400> 29
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20

<210> 30
<211> 28
<212> DNA
<213> Artificial

<220>
<223> oligonucleotide

<400> 30
ttagaagcak gcatgwctac actsagcc

28

<210> 31
<211> 22
<212> DNA
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<220>
<223> oligonucleotide

<400> 31
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22

<210> 32
<211> 21
<212> DNA
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<220>
<223> oligonucleotide

<400> 32
gtgcagtttg caggtagcc c

21

<210> 33
<211> 25
<212> DNA
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<220>
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<400> 33
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25

<210> 34
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<212> DNA
<213> Artificial

<220>
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<400> 34
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28

<210> 35
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<220>
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22

<210> 36
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<212> DNA
<213> Artificial

<220>
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<400> 36
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24

<210> 37
<211> 24
<212> DNA
<213> Artificial

<220>
<223> oligonucleotide

<400> 37
acacctcaaa tagatatgga tata

24

<210> 38
<211> 29
<212> DNA
<213> Artificial

<220>
<223> oligonucleotide

<400> 38
gttatctatt ctattctatc atatctatc

29

<210> 39
<211> 30
<212> DNA
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<220>
<223> oligonucleotide

<400> 39
gatatagata tatagaagag atatagatgg

30

<210> 40
<211> 29
<212> DNA
<213> Artificial

<220>
<223> oligonucleotide

<400> 40
gttatctatt ctattctatc atatctatc

29

<210> 41
<211> 29
<212> DNA
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<220>
<223> oligonucleotide

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29

<210> 42
<211> 29
<212> DNA
<213> Artificial

<220>
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29

<210> 43

<211> 28
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<220>
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28

<210> 44
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29

<210> 45
<211> 24
<212> DNA
<213> Artificial

<220>
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<400> 45
acacctcaaa tagatatgga tata

24

<210> 46
<211> 38
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<220>
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38

<210> 47
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<220>
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<400> 47
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24

<210> 48
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 <220>
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 <400> 49 24
 acacctcaaa tagatatgga tata
 <210> 50
 <211> 38
 <212> DNA
 <213> Artificial
 <220>
 <223> oligonucleotide
 <400> 50 38
 ccaattcact ggcccttgt tatatctata tctataacc
 <210> 51
 <211> 1041
 <212> DNA
 <213> Zea mays
 <220>
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 <223> MRP1
 <400> 51 60
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 tgtggagcgc tcccgagatc aatatgatga actcactcat cactagtcac atcgccaaca 120
 acacctcac aaacaacaac cagcatgttg tggcaagtgc tagtgccatt gtgaaccaca 180
 ataactttgg gatgccaacg gaggtcgttc caccogtgga caacatggag atgatgcaag 240
 gctatctaat ggctgatacg gatgccatga ggcttgttca gggacaacaa catatgccaa 300
 atgttgtttc taatcaaagg aggcagtcag tgaagttttg gactacagat gaggcacagga 360
 atttccttgc tggttotagaa gtgtttggcc gtggtaaag gaagaacatc tccaagtact 420
 tgcgtccacc aaggacacca gtgcagatct ctagccatgc acagaagtat ttccgcaggc 480


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aggagtgcac cacagagaaa caacgcttta gcatcaacga tgttgccctc tacgacacac      540
agccattgggt gcgcagagaac aactcctcta gcagctggga ggcgctcacc ttcactgctg      600
gccgtgcgta caataatata aactactgtg cctttaacag cctcccgat ggcagcagcc      660
aggcaagtaa caaccaggtg gctacatgga ttacagacca gcaggcaact gcaagtcttt      720
ctatagctcc tccagcgacg gaggagagcc agatatataa ccgataatat atataatggt      780
catcagcagc tgggagaggc ttcttcata tataatcaat aggtagatag atatggacaa      840
cgtccattga ctagttaaatt ttctatctat atgttttcta tccaatgat catgtaaaac      900
ctagtgtggt gttaaaggtc attagtacca tactatatat gggctagaaa cagtttcatt      960
gaaatttgcc cctgagcaat acaatgaaat ttaccaatg tgttatattat atattaatgt     1020
gtctaaaaaa aaaaaaaaaa a                                         1041

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<210> 52
<211> 242
<212> PRT
<213> Zea mays

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<220>
<221> MISC_FEATURE
<223> MRP1

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<400> 52

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Met Asn Pro Asn Phe Asn Ser Val Trp Ser Ala Pro Glu Ile Asn Met
1           5           10          15

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```

Met Asn Ser Leu Ile Thr Ser His Ile Ala Asn Asn Thr Tyr Thr Asn
20           25          30

```

```

Asn Asn Gln His Val Val Ala Ser Arg Ser Ala Ile Val Asn His Asn
35           40          45

```

```

Asn Phe Gly Met Pro Thr Glu Val Val Pro Pro Val Asp Asn Met Asp
50           55          60

```

```

Met Met Gln Gly Tyr Leu Met Ala Asp Thr Asp Ala Met Arg Leu Val
65           70          75          80

```

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Gln Gly Gln Gln His Met Pro Asn Val Val Pro Asn Gln Arg Arg His
85           90          95

```

```

Ala Val Lys Phe Trp Thr Thr Asp Glu His Arg Asn Phe Leu Arg Gly
100          105         110

```

Leu Glu Val Phe Gly Arg Gly Lys Trp Lys Asn Ile Ser Lys Tyr Phe
 115 120 125

Val Pro Thr Arg Thr Pro Val Gln Ile Ser Ser His Ala Gln Lys Tyr
 130 135 140

Phe Arg Arg Gln Glu Cys Thr Thr Glu Lys Gln Arg Phe Ser Ile Asn
 145 150 155 160

Asp Val Gly Leu Tyr Asp Thr Gln Pro Trp Val Arg Gln Asn Asn Ser
 165 170 175

Ser Ser Ser Trp Glu Ala Leu Thr Phe Thr Ala Gly Arg Ala Tyr Asn
 180 185 190

Asn Thr Asn Tyr Cys Ala Phe Asn Ser Leu Pro Tyr Ala Ser Ser Gln
 195 200 205

Ala Ser Asn Asn Gln Val Ala Thr Trp Ile Thr Asp Gln Gln Ala Thr
 210 215 220

Ala Ser Ser Ser Ile Ala Pro Pro Ala Thr Glu Glu Ser Gln Ile Tyr
 225 230 235 240

Asn Arg

<210> 53
 <211> 83
 <212> PRT
 <213> Zea mays

<220>
 <221> MISC_FEATURE
 <223> MEG1-3, second ORF

<400> 53

Met Gln Trp Leu Ala Phe Val Ala Pro Arg Trp Arg Cys Val Cys Asp
 1 5 10 15

Gln Glu Leu Ser Ala Gln Thr Gly His Val Thr Asp Asp Val Gly Val
 20 25 30

Ser Thr Pro Ala Lys Glu Gly Ile Met Gln Gly Asn Gly Ala Arg Cys
 35 40 45

Asp Val Gly Phe Pro Pro Cys Lys Asp Asn Lys Cys Tyr Cys Ile

19

50

55

60

Gly Gly Arg Thr His Ala Arg Tyr Ser Thr Leu Ala Glu Cys Ser His
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Ala Cys Phe

<210> 54
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<220>
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<400> 54

Pro Cys Lys Asp Asn Lys Cys Tyr Cys Cys Ile Gly Gly Arg Thr His
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<220>
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23

<210> 56
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 <212> DNA
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<220>
 <223> oligonucleotide

<400> 56
 ccccgttgac tgcctcttcg

20

<210> 57
 <211> 37
 <212> DNA
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<220>
 <223> MEG promoters conserved sequence

<400> 57
 atatagatag ataatagcaaa ttcaccaaata aatatag

37

<210> 58
 <211> 1350
 <212> DNA
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<220>
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aattctgtgt actttgattt atattatgta aattactcta gtcttttata ttatttttta      180
ctctttattg ttattcgaag cattgtgtta tgatgagtca tttatgtaat tgctatgtac      240
gtgagttttg atcctagcac gtacatggtt cgcattcggt ttaccttcta aaacctgggg      300
tgacaggttg catagcagga gtggagggca gcgacggctg cacagctctg cgtgcagtgg      360
cttgcaattg ttgctcctcg ttggcagtcg gtgtgcgacc atgagctctc gacacaggta      420
ggtagtagta gagccagaat tgtaaccttg ggttttccca cacctcaa atagatatagat      480
atagggatat agatagatat agcaaattca ccaaataata taggggtata gatatatagata      540
taagaagggg tatagatata gatatatata tatagaagat atagatagat agatagatat      600
gatagaatag ataacttaca attttgtcta aaagaaacta aatcactgct aagtttggag      660
tagcatatct ttggtgaata cttgctagtg aattggtttc cgctatagta tatatatata      720
agtatacact cttctaggat tatagtatat atatatatat aagtatacac tcttctagga      780
tcaactgtga ggagttcatt aaattgtctt gcgacatgga gtacagaaag aggggtggatg      840
cgctagtgtt tttctcgtha cttctcctcg gatactttgc tgctcatgca catgggaagg      900
gtaagtgaaa actatacaga catgtgtgtg catgcttaga tagatctaga caatttagaa      960
gatgttatta tatgataccg tgtgtatcat ggcgaattgc taatgtatcg caatcccctg    1020
tgttaaatta ctcaaaat ttcgaatgta attattctcg aggcatttgt tggtaataga    1080
actcttacc tatacttct actaggtcat gtcacagatg atgtcagtg tttactcca    1140
gctaagaag gaattatgca aggaacgga gcacgatgcg ttgtagggtt tctccatgc    1200
aaagataaca agtgctactg ctgcattggg gggcgaactc atgctcgcta ctctcgatgg    1260
ctgatgtaga catgcctgct tctaacaaaa taagacgttg tatatatcat gtagggagga    1320
attataata ttatggaatt agttgtatat    1350

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<213> Artificial
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 atatata 127
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 <212> DNA
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 <220>
 <223> oligonucleotide
 <400> 60
 acacctcaaa tagatatgga tata 25
 <210> 61
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 <213> Artificial
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 <400> 61
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 <210> 62
 <211> 500
 <212> DNA
 <213> Zea mays
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 agaattgtaa ccttgggttt tcccacacct caaatagata tagatatagg gatatataga 180
 gatatagcaa atccacaaa taatatagg gtatatagat agatataaga aggggtatag 240
 atatatagat agatatatag aagatataga tagatataga gatagtag aatagataac 300
 ttacaatttt gtctaaaaga aactaaatca ctgctaagtt tggagtagca tatctttggt 360
 gaatacttgc tagtgaattg gtttccgcta tagtatatat atataagtat acactcttct 420

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<212> DNA
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<220>
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<400> 63
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<210> 64
<211> 30
<212> DNA
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<220>
<223> oligonucleotide

<400> 64
ggatcctcga gcctctagta tcggtctgac 30